

Small Fruit Update



Providing Northwest berry growers with the information they need when they need it.

The Small Fruit Update is sent out weekly during the growing season by [Peerbolt Crop Management](#) and is funded entirely by the Northwest berry growers and industry through their commissions and councils.

May 6, 2014

Week 19

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- [Patriot Blueberry Farms, An EXCITING Blueberry Investment Opportunity](#) (Posted on 4/8/14, Wall Street Revelator) Wow—quite some claims here. Did you know: “Blueberry profits are 32 times better than corn farming in Iowa? And raspberries return about 367 times more per acre than wheat?” What are all you growers doing with all this money you’re making?
- [Increasing the Diversity of Marketable Raspberries](#) (4/28, phys.org website)

[The Weather Cafe](#) by Rufus La Lone [Small Fruit Cold Storage report](#)

May meetings at the [OSU North Willamette Research & Extension Center](#), all are free events but you should register if you want to attend either of the first two since space is limited:

- **May 21 — Workshop for Machine Harvesting Fresh Market Blueberries** ~ 9-4pm , [Click here](#) for registration & agenda.
- **New Posting: May 22 — OSU Extension Workshop— A warm-up: Management Tools for SWD** ~ 9-1pm, [Click here](#) for registration & agenda.
- **May 29 — Monthly Willamette Valley Berry Fieldman/Grower meeting** ~ 8-9:30am, [Dave Bryla](#), USDA horticulturist who’s done a lot of research on irrigation & nutrition in berry crops will be joining us. Free for all. Coffee & donuts! Call or [email](#) Peerbolt Crop Management for information, 503-289-7287.

Tom Peerbolt, SFU Editor

Disseminating information for: Washington

[Washington Red Raspberry Commission](#)
[Washington Blueberry Commission](#)
[Washington Strawberry Commission](#)

Oregon

[Oregon Raspberry and Blackberry Commission](#)
[Oregon Blueberry Commission](#)
[Oregon Strawberry Commission](#)

British Columbia

[Fraser Valley Strawberry Growers Association](#)
[Raspberry Industry Development Council](#)
[B.C. Blueberry Council](#)

National

[North American Blueberry Council](#)



Regional reports

British Columbia, Fraser Valley

From the May 2nd [Blueberry IPM Weekly newsletter](#) (by [ES Cropconsult](#) for the [BC Blueberry Council](#)):
“Most varieties are now in bloom. Percentage bloom varies by region and variety.

- *Elliott, Liberty, Aurora: 0 - 1% bloom*
- *Bluecrop, Draper, Brigitta: 1 - 15% bloom*
- *Duke, Reka, Hardiblu/1613: 10 - 40% bloom*
- *Northland, Rancoca: 10 - 30% bloom*
- *Earliblu, Patriot: 50- 80% bloom”*
- **Blueberries:** (Monday, 5/5) A beautiful past week of weather that saw temps up to 29C (84F) in the Fraser Valley by Thursday which moved bloom on Dukes from 15%-20% early in the week to a sea of white in most areas. Bloom on everything to a degree including a start on the Elliotts in places. By Saturday we're down to earth with cooler wet conditions lasting to May 6th apparently. Bees have gone from overdrive to spending a lot of quality time in the hive. Hopefully things improve quickly so we can get back to getting that big bloom surge pollinated. On the lookout now for secondary mummyberry infection to be a real possibility. Lots of fungicide sprays went last week however, so that should mitigate some of the issues.
- **Raspberries:** (Monday, 5/5) Raspberry growth really picked up with the warm week but the wet ending may turn yellow rust infection into a bigger concern this week. Cold damaged fields are really standing out now. And root rot infection became apparent after those hot days last week. Mite infestations really seem low so far as compared to what I normally find this time of the year. A bit of a surprise.

Northern Washington, Skagit County (Friday, 5/2)

We're looking at mid-80's and rain this weekend in Skagit along with the 8' plus tides, could be filling sand bags by Sunday.

- **Blueberries:** Seeing significantly less mummyberry in organic blueberries that were under high tunnel covers in early spring. Keeping the rain off and less moisture in the hills appears to help: less apothecia (covered with sawdust, thick) and now far fewer flag shoots compared to uncovered blocks.
- **Strawberries:** Fungicide going on blooming Albion and Honeoye, Totem's well behind the fresh market straws. Lots of mites in the plants on plastic mulch. The labor situation remains an enigma, we'll see how it plays out.
- **Blackberries:** Chesters are a mixed bag: plantings with good air movement came through winter well, plants in low spots got hit during December cold and will depend on secondary buds for crop.

Western Oregon, Willamette Valley

- **Strawberries:** (Friday, 5/2) Totems and Hoods are past 50% bloom. The heat early this week brought out a lot. Some hail damage in a few fields. Price seems to be firming up. If we could just work out this labor thing...
- **Blackberries:** (Tuesday, 5/6) We are ahead of last year on degree days and so I am surprised Marions are not as far along as I thought they would be. Last year we were at 1% bloom on May 4, as of yesterday, May 5, we were not there yet. Some scattered bloom but for sure but not what I consider 1%. Might be there by May 8. The degree day model I use says we will start Marion harvest on July 3 where last year we started on June 29, makes sense at this point with bloom starting a few days later. Black Diamonds on the other hand were at 1% bloom on April 29 last year and April 30 this year. I could be off some on my estimation of 1% bloom from year to year so a one day difference probably doesn't mean much. So at this point what that all means to me is there will be a bigger split between starting dates. Black Diamonds should start around June 24 and Marions July 3, where last year it was June 24 and June 29. Of course all subject to change.

Pre-bloom sprays, ongoing primocane sprays and some bloom sprays going on the earlier blacks. There are some new plantings going in this week too. Considering all the damage in Marions and the weak fields I thought the heat last week would have a noticeable effect but saw no signs of it. Maybe that's because they really aren't stressed at this point trying to produce fruit and at the next hot spell it will show up. A lot of the damage is now covered up by new growth so becoming less visible but it's not any better. A majority of fields will be 50% or less of a crop.



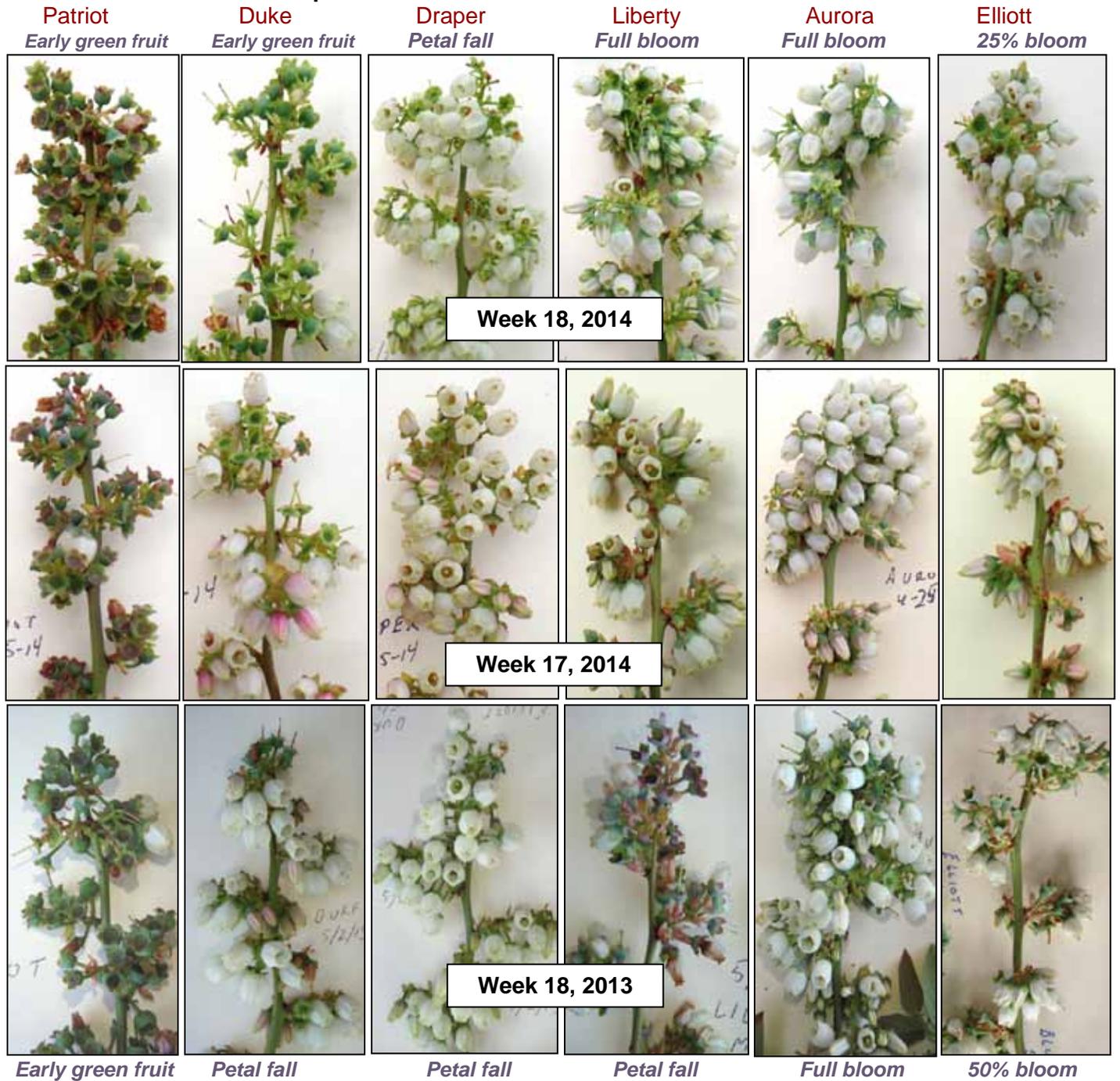
An alternate year Marionberry blackberry field on May 2nd showing cold damage & no open bloom yet (Photo by Bill Dinger).

- **Blueberries:** (Monday, 5/5) There's quite a bit of variation in development throughout the valley this year. Southern and east side fields seem to be at least a week ahead of the northwest fields. Wouldn't be a bad idea to spread out the harvest a little more than last year when all the Dukes came on at once. We're pretty much into green fruit stage with the early season cultivars. The hot weather greened fields up and also brought out deficiency symptoms in some. Still seem on course for a great crop. Timing right now is on the early side.

Blueberry floral bud development over the past week & compared to same week in 2013

Note: The fields being sampled each week are in the Forest Grove/Hillsboro area. Other areas in the Willamette Valley are as much as a week ahead of these fields in degree days and in plant development.

Northwestern Willamette Valley
Top – 5/2/14 Middle – 4/25/14 Bottom – 5/3/13



SWD Report for week 19

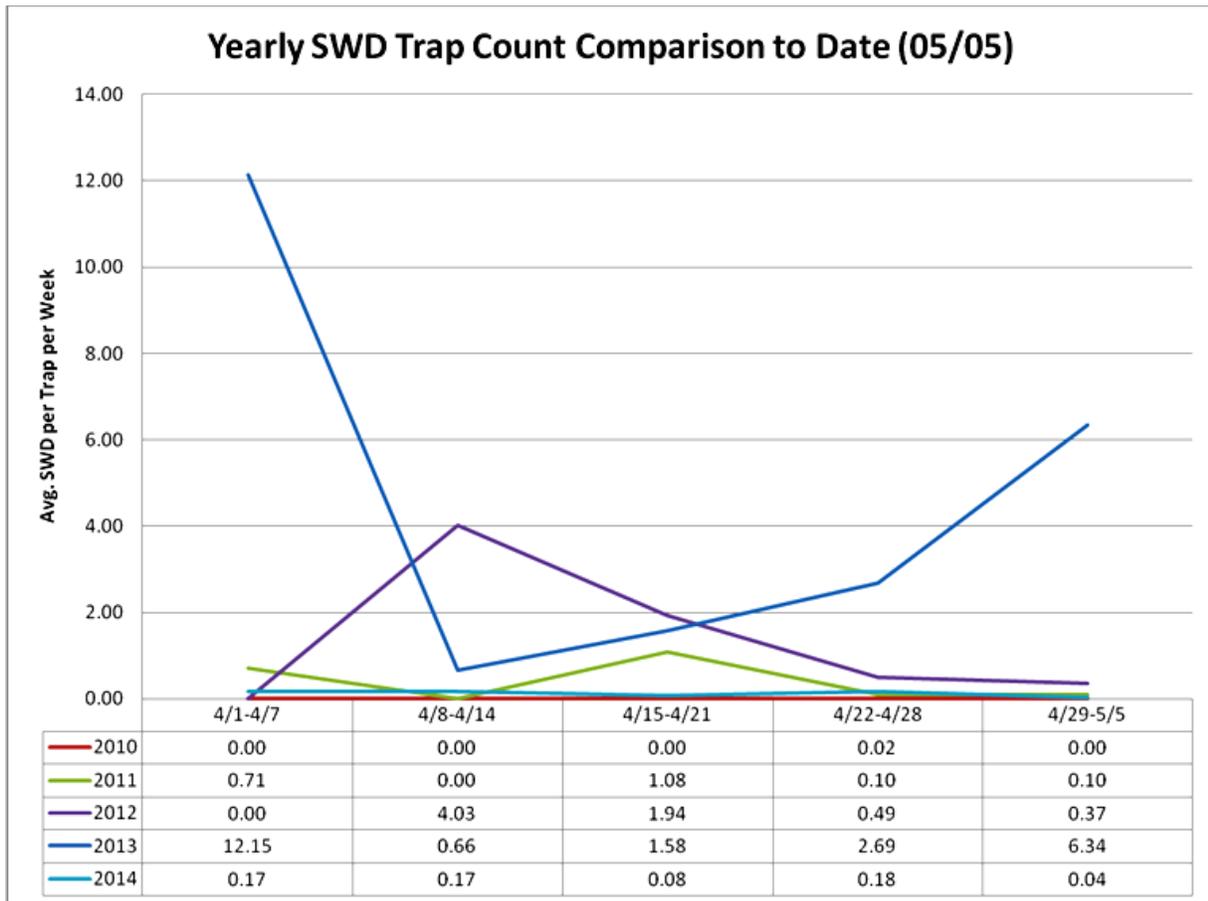
Early season trap count comparison

This data is from our grant funded public SWD trapping network (about 50 traps around the valley—varies a little from week to week). Right now the 2014 Willamette Valley trend is much closer to 2010 than the higher risk years of 2012 & 2013. This is likely because of the much colder, winter weather. One of the major factors we'll need to get used to with SWD is that the pressure/crop risk is going to vary from year to year.

Caveat: This chart is an indicator of SWD population levels as compared from year to year but is *just an indicator*. We have changed some fields, some trap locations, and some trap baits and types as well as other factors that influence trap catches over the last five years as we learn and adapt. This is a dynamic, developing process—our ability to monitor and forecast this pest and the risks it poses has improved each year. Keep that in mind when interpreting this information.

Notes from Jason, PCM scout supervisor/consultant:

- Numbers are staying pretty consistently flat lined.
- For the past two weeks, SWD adult catches have been almost entirely within the cherry orchards with just a couple in blueberry field borders and one token SWD caught in Salmonberry.



Grower resources

- [Invest in pollination for success with highbush blueberries](#) (5/6, MSU Extension) *This is a just updated version of the article I had linked in last week's SFU. Among other updated information is the number of recommended hives per acre.*
- [Minimizing pesticide exposure to bees in fruit crops](#) (4/29, MSU Extension)
- [High-Tech weeders have potential for vegetable \(& berry\) growers](#) (5/5, Growing Produce)

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Field notes from the scouts this week

These are all Willamette Valley locations

Insects

- First of the season [Blueberry Gall Midge](#) picked up in various fields.
- [Winter Moth/Bruce Span Worm](#) seem to be at higher than normal levels in blues.
- [Green leaf weevil](#) was recovered from a blueberry field. Last year this weevil caused a lot of leaf notching in one particular field. Probably not a big concern but it's a new weevil to keep an eye out for.
- [Azalea Bark Scale](#) has been found at the highest levels I've ever seen in a field.

Diseases

- [Mummyberry](#) flagging is being picked up in many fields with a history of the disease. Shock symptoms are causing some mis-identification issues.
- First [mosaic virus](#) symptoms appearing in blues.
- [Yellow rust](#) is visible in red raspberries—so far not at high levels anywhere.
- [Cane and leaf rust](#) seems to be showing up heavier than normal in many Marion, Black Diamond and Columbia Star plantings.

Nutrition & water

- No water deficits showing up so far. We've had a nice mix of rain and sun.
- Going into green berry stage and with the first hot weather of the season, nutrient deficiency symptoms are becoming evident in many fields.

Pollination

- Seeing more first generation worker bumble bees out and working. They're much smaller than the overwintering queens.
- Honey bee activity has been great. Seem to have had enough good weather windows between showers so far. We'll see how the green berry expansion stage goes to let us know about pollination.

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Industry news/resources

Newsletters/ berry reports

- [BC Blueberry IPM Newsletter](#) (4/26) Weekly by [ES Cropconsult](#). Sponsored by the BC Blueberry Council.
- [Whatcom Ag Monthly](#) Produced by WSU Whatcom County Extension. Includes excellent berry crop information.
- [The New Jersey Blueberry Bulletin](#) (4/28) A weekly grower update from Gary Pavlis, Rutgers Extension agent.
- [Southwest Michigan Regional Fruit Report](#) (5/6) From Michigan State Extension.
- [National Berry Report](#) Daily fresh market berry reports. Hosted by the California Strawberry Commission, this report is generated from data from the USDA Agricultural Marketing Service and is updated daily.
- [Export Market Update](#) (4/25) from General Produce Company
- [Market Report](#) (4/28) from General Produce Company
- [The Source](#) (5/5) Market reports from The Produce News.

Magazine/website compilations

- **The Packer:** [blueberries](#), [blackberries](#), [raspberries](#), [strawberries](#).
Recent stories and fresh market pricing for the various berries from The Packer.
- **Growing Produce:** [recent berry articles](#).
- **Fresh Fruit Portal:** [blueberries](#), [blackberries](#), [raspberries](#), [strawberries](#).
Recent stories for the various berries from Fresh Fruit Portal.

Berry research blogs

- [Strawberries and Caneberries](#) by Mark Bolda, UC Davis Berry Extension Agent. Reports on recent insect and disease research and observations in California.
- [Team Rubus](#) by Gina Fernandez, North Carolina State Small Fruit Specialist. Reports on issues in blackberries and raspberries from the Southeast.

Regulatory Agencies

- [FDA seeks help for food safety compliance](#) (5/5, The Packer)
- Opinion: [We hope ruling will reign in Labor Department](#) (5/1, Capital Press)

Pollination

- [Minimizing pesticide exposure to bees in fruit crops](#) (4/29, MSU Extension)

Research

- [Arkansas researchers study winter tunnel production of strawberries](#) (5/5, The Packer)

Plant Breeding/Intellectual Property

- [Arkansas blackberry breeding effort flourishing](#) (3/27, Fruit Grower News) *Good profile of Dr. John Clark's blackberry breeding program.*

Climate/Water

- California: [Drought depletes California snowpack, aquifers](#) (5/1, Capital Press)

North America

- North Carolina: [N.C. strawberry yields triple](#) (5/5, The Packer)



Event calendar

- **May 8 —Oregon Strawberry Commission** ~ [Langdon Farms Golf Course](#), 6pm. Call 541-758-4043 or [Email](#) Philip Gutt for more information.
- **May 11-13 — International Raspberry Organization** ~ Chuzhou, China. [Contact Henry Bierlink](#) for more information.
- **May 21 — Workshop for Machine Harvesting Fresh Market Blueberries** ~ 9-4pm , [North Willamette Research and Extension Center](#). [Click here](#) for registration & agenda.
- **New Posting: May 22 — OSU Extension Workshop—A warm-up: Management Tools for SWD** ~ 9-1pm Free but space is limited so early registration is encouraged. [North Willamette Research and Extension Center](#). [Click here](#) for registration & agenda.
- **May 29 — Willamette Valley Berry Fieldman/Grower meeting**, 8am at [North Willamette Research and Extension Center](#). [Dave Bryla](#), USDA horticulturist who's done a lot of research on irrigation & nutrition in berry crops will be joining us. Free for all. Coffee & donuts! Call or [email](#) Peerbolt Crop Management for information, 503-289-7287.
- **May 29 — National Processed Raspberry Council**, SeaTac Marriott, Seattle, WA. For more information, call Tom Krugman at 360-354-0948. [Click here](#) for the Council's website.
- **June 11 — OSU Strawberry Open House** ~ 1:00-4:30 pm North [Willamette Research and Extension Center](#) (NWREC) *A focus on the breeding program & research for commercial growers. Details TBA.*
- **June 18-19 — Annual Maximum Residue Limit (MRL) Harmonization Workshop** (4/14, Growing Produce) In San Francisco. Organized by the California Specialty Crops Council. [Click here](#) for registration & agenda information.
- **June 26 — Willamette Valley Berry Fieldman/Grower meeting**, 8am at [North Willamette Research and Extension Center](#). Call or [email](#) Peerbolt Crop Management for information, 503-289-7287.
- **July 9 — OSU Caneberry Field Day** ~ 1:00-5:00 pm [North Willamette Research and Extension Center](#) (NWREC) *A focus on the breeding program & research on conventional and organic production systems for commercial growers. Details TBA.*

- **July 16 — OSU Blueberry Field Day** ~ 1:00-5:00pm [North Willamette Research and Extension Center \(NWREC\)](#) A focus on the breeding program & research on conventional and organic production systems for commercial growers. Details TBA.

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Week 19-- Pest management & field work

Time to scout for: Yellow Rust Raspberries –



Stages of Yellow Rust (from left) spermogonia, aecia, uredinia: Right now it's mostly in the first stage.
(Middle photo by Carolyn Teasdale, others by Tom Peerbolt)

- Yellow rust is now changing spore stages. None has yet gotten to the uredinia stage that causes all the problems.
- The fourth spore stage (uredinia) appears later in the season as yellow 'dust' on the bottom of leaves. This last stage is the one that multiplies quickly & can quickly defoliate canes if left untreated.
- Evaluate disease incidence and stage to determine whether (& when) fungicide applications are warranted.

Vector management: [Scorch virus](#) – Areas with confirmed scorch virus present.

Blueberries, Vector (aphid) management

- From an April, 2011 B.C. Pest Alert: "Blueberry scorch virus is transmitted by aphids. An effective aphid control program should be used by all growers. *Fields should be treated before bloom with a registered aphicide to control the over-wintering aphids before they reproduce and disperse.*"
- Click on the blue link above for full information from the B.C. Ministry of Agriculture. Check with your berry management specialists, both public and private, for more specific recommendations and selection of appropriate management materials.
- You can also email the B.C. Blueberry Council's research coordinator, [Karina Sakalauskas](#) (or call her at (604) 613-2133) for information.

Time to scout for: [Shock virus](#) –blueberries.

- Symptoms are visible in many fields.
- This disease is vectored by pollinators.
- There is no treatment or cure.
- Infected bushes generally display symptoms for one year and then return to productivity.

Prime time to scout for and prevent: [Mummyberry](#), blueberries.

Fields at risk should have a protective fungicide on the susceptible tissue at this time to minimize infections.

Factors that increase risk of infections:

- If we have periods when plant tissue is continually wet for the 12 hours or more required for infection.

- If our temperatures are near the optimal range for infections to take place (50-57°F / 10-14°C).
- [Mummyberry primer from MSU](#)
- Secondary infection symptoms have just begun showing up in southern fields.(see below).



*Mummyberry Strikes 4/26/13 Left-Liberty; Right-Spartan
Left photo: Tom Peerbolt; Right photo: Jason Myer*

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Ongoing Pest Information

- **Scout for:** [Azalea Bark Scale](#), blueberries. This scale's telltale bright white egg sacs on the lower branches of infested plants are now apparent in some southern blueberry fields.
- **Scout for:** **Root Weevils, strawberries.** Larvae of [Black Vine](#), [Rough Strawberry](#), [Strawberry Root Weevils](#) are now being recovered from some strawberry fields.
- **Scout for:** [Blueberry Gall Midge](#), southern blueberries. Tip damage from this midge is showing up in southern blueberries. Damage is usually deemed to not be economic except in specific situations like new vigorous fields where gall midge can occasionally cause too much stunting of new growth.
- **Prime Time to Scout for:** **Mites in raspberries (northern growing areas):** [Twospotted mites](#) [Yellow mites](#)
- **Prime Time to Scout for:** [Winter Moth/Bruce Span Worm](#) blueberries
- **Prime Time to Scout for:** [Clay Colored Weevils](#) northern raspberries & blueberries:
- **Prime Time to Scout for:** [Strawberry Crown Moth](#) southern strawberries: Infested plants will had a weakened crown and often will break off with a pull on the top growth.

Crop Work

All crops

- Vole management.
- Weed management.
- Fertilizer program.
- Can put out monitoring traps for Spotted Wing Drosophila.

Blueberries

- Bring in bees around 10% bloom.
- Apply bloom applications to prevent fruit molds.
- Treat for [Mummyberry](#) as needed. (See Alert above)
- Scout for virus symptoms & send in samples for testing as needed.
- Scout for [leafroller larvae](#) feeding.
- Scout for [Shock virus](#) symptoms.

- Plan for pre-bloom [aphid](#) control where [scorch virus](#) transmission is an issue.
- Scout for [winter moth/Bruce spanworm](#) larvae.
- Scout for scale insects.
- Scout for weevil notching.

Blackberries

- Scout for virus symptoms & send in samples for testing as needed.
- Burn back primocanes as needed.

Evergreen Blackberries

- Scout for and treat as needed for Blackberry rust.

Raspberries

- Burn back primocanes as needed.
- (northern areas) Scout for [Clay Colored Weevil](#) feeding and treat as needed.
- Scout for [twospotted mites](#).
- Scout for virus symptoms & send in samples for testing as needed.
- Can apply a phosphite material for stronger root growth and root rot prevention.
- Scout for Yellow Rust and assess treatment options.
- Scout for spider mites and treat as needed.

Strawberries

- Watch for weak growing areas and check plants for [weevil larvae](#), [root rot](#) and/or cold damage.
- Can apply fungicides starting at 10% bloom.
- (Southern strawberries) Can scout for [Strawberry Crown Moth](#) larvae.
- Can apply phosphite materials to strengthen root systems and manage root rot.

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Archived Small Fruit Updates

(For older Updates [click here](#).)

[18-SFU04-29-14](#) [17-SFU04-22-14](#) [16-SFU04-15-14](#)